

Claims:

1. An isolated DNA sequence comprising any of SEQ ID Nos 1 to 27.
- 5 2. An isolated DNA sequence as claimed in claim 1, consisting of any of SEQ ID Nos 1 to 27.
3. An isolated DNA sequence as claimed in claim 1 or 2 for use in DNA amplification.
- 10 4. An isolated DNA sequence as claimed in claim 3 for use as a primer or a probe, wherein the probe may be fluorescently labeled
5. A method for nucleic acid detection comprising the steps of nucleic acid isolation
15 followed by nucleic acid amplification and subsequently Real Time PCR.
6. A method as claimed in claim 5 where nucleic acid amplification comprises PCR, NASBA or any other nucleic acid amplification technique.
- 20 7. The method for nucleic acid detection as claimed in either claim 5 or 6 wherein Real Time PCR uses fluorescently labeled probes.
8. The method as claimed in any of claims 5 to 7 wherein the nucleic acid to be detected is DNA or cDNA.
- 25 9. The method as claimed in claim 8 wherein the nucleic acid is SARS coronavirus

cDNA.

10. The method as claimed in any of claims 5 to 9 wherein the method comprises the following steps:

- 5 i) extracting the nucleic acid from a biological or environmental sample;
- ii) amplifying the nucleic acid, optionally using PCR, NASBA or any other
 nucleic acid amplification technique; and
- iii) amplifying and detecting the nucleic acid produced in step (ii) using Real
 Time PCR.

10

11. The method of claim 10 wherein there is an additional step after step (i) if the nucleic acid obtained is RNA, wherein the step comprises converting the RNA to cDNA using reverse transcriptase.

15 12. The method as claimed in any of claims 5 to 11 wherein primers and/or probes are used in steps (ii) and (iii).

13. The method as claimed in claim 12 for the detection of SARS coronavirus cDNA wherein the primers and/or probes bind to at least a portion of SARS coronavirus
20 cDNA.

14. The method as claimed in claim 13 wherein the primers and probes used correspond to isolated DNA sequences comprising SEQ ID Nos 1 to 27.

25 15. The method as claimed in claim 14 wherein the primers used in step (iii) do not overlap with the probe.

16. The method as claimed in claim 14 wherein the primer sets used in step (ii) corresponds to any of SEQ ID Nos 1,2, 3, 4 or 5; and 6, 7, 8, 9 or 10.
- 5 17. The method as claimed in claim 14 wherein the primer set used in step (ii) corresponds to any of SEQ ID Nos 26 and 27.
18. The method as claimed in either claim 14 or 15 wherein the primer set used in step (iii) corresponds to any of SEQ ID Nos 11, 12, 13, 14, or 15; and 16,17, 18, 19 or
10 20.
19. The method as claimed in any of claims 16 to 18 wherein the probe used in step (iii) corresponds to any of SEQ ID Nos 21, 22, 23, 24 or 25.
- 15 20. An isolated DNA sequence as claimed in claim 1 for use in a method of detecting a nucleic acid.
21. An isolated DNA sequence for use as claimed in claim 20 wherein the nucleic acid is the SARS coronavirus RNA or cDNA.
- 20 22. Use of the isolated DNA sequences as claimed in claim 1 in the manufacture of a composition for use in a method of detection of nucleic acid comprising the steps:
- i) extracting the nucleic acid from a biological or environmental sample; and
- ii) amplifying the nucleic acid, optionally using PCR, NASBA or any other
25 nucleic acid amplification technique; and
- iii) amplifying and detecting the nucleic acid from step (ii) using Real Time

PCR.

23. Use as claimed in claim 22 wherein the nucleic acid is DNA or cDNA
- 5 24. Use as claimed in claim 23 wherein the nucleic acid is the SARS coronavirus cDNA.
25. Use of a primer specific to SARS coronavirus in the manufacture of a diagnostic test kit for detecting viral infections wherein the virus is SARS coronavirus and
10 the primers consist of SEQ ID Nos 1 to 27.
26. A SARS diagnostic test kit comprising two or more isolated DNA sequences corresponding to SEQ ID Nos. 1 to 27.
- 15 27. A SARS diagnostic test kit as claimed in claim 26 comprising the primers corresponding to any of SEQ ID Nos 1,2, 3, 4 or 5 and 6, 7, 8, 9 or 10.
28. A SARS diagnostic test kit as claimed in claim 26 comprising the primers corresponding to any of SEQ ID Nos 26 and 27.
- 20 29. A SARS diagnostic test kit as claimed in any of claims 26 to 28 comprising primers corresponding to any of SEQ ID NOS 11, 12, 13, 14 or 15 and 16, 17, 18, 19 or 20
- 25 30. A SARS diagnostic test kit as claimed in claim 29 comprising a probe corresponding to any of SEQ ID Nos 21, 22, 23, 24 or 25.

31. A diagnostic test kit for detecting SARS coronavirus in a biological or environmental sample wherein the kit comprises:

- 5 (i) an isolating agent for isolating the SARS coronavirus RNA from the sample; and
- (ii) a nucleic acid replicating agent for replicating a target molecule, wherein the target molecule includes: a nucleic acid sequence complementary to at least a portion of the RNA sequence of SARS coronavirus; and
- 10 (iii) a nucleic acid detecting agent for detecting the target molecule, wherein the nucleic acid detecting agent includes the detection molecule.

32. A kit for detecting SARS coronavirus as claimed in Claim 31, wherein the target molecule is a cDNA molecule

15

33. A kit for detecting SARS coronavirus as claimed in Claim 31 or 32, wherein the nucleic acid replicating agent includes a first purified and isolated DNA molecule including: a DNA sequence for binding to at least a portion of the RNA sequence of SARS coronavirus such that the first purified and isolated DNA molecule extends in the presence of an enzyme and DNA nucleotides to generate a DNA sequence including: a DNA sequence complementary to at least a portion of the cDNA sequence of SARS coronavirus when the first purified and isolated DNA molecule binds to at least a portion of the cDNA sequence of SARS coronavirus.

20

25 34. A kit for detecting SARS coronavirus as claimed in any of Claims 31 to 33, wherein the first DNA sequence encodes either one of the DNA sequences of SEQ

ID Nos. 1, 2, 3, 4 or 5 in conjunction with either one of the DNA sequences set forth in SEQ ID Nos. 6, 7, 8, 9 or 10 or alternatively SEQ ID Nos 26 and 27.

35. A kit for detecting SARS coronavirus as claimed in any of Claims 31 to 33,
5 wherein the nucleic acid replicating agent includes a second purified and isolated DNA molecule including: a DNA sequence for binding to at least a portion of the DNA sequence of SARS coronavirus produced by a first round of amplification such that the second purified and isolated DNA molecule extends in the presence of an enzyme and DNA nucleotides to generate a DNA sequence including: a
10 DNA sequence complementary to at least a portion of the cDNA sequence of SARS coronavirus produced during a first round of amplification when the second purified and isolated DNA molecule binds to at least a portion of the cDNA sequence of SARS coronavirus.
- 15 36. A kit for detecting SARS coronavirus as claimed in any of Claims 32 to 33, wherein the second DNA sequence encodes either one of the DNA sequences set forth in SEQ ID Nos. 11, 12, 13, 14 or 15, in conjunction with either one of the DNA sequences set forth in SEQ ID Nos. 16, 17, 18, 19 or 20.
- 20 37. A kit for detecting SARS coronavirus as claimed in any of claims Claim 31 to 36, wherein the replicated DNA product is first diluted prior to the further amplification.
- 25 38. A kit for detecting SARS coronavirus as claimed in any one of Claims 31 to 37, wherein the detection molecule includes; a DNA sequence encoding at least a portion complementary to the RNA sequence of SARS coronavirus for binding to

the target molecule; and a signal generator.

39. A kit as claimed in Claim 38 wherein the DNA sequence of the first DNA molecule does not overlap with the second DNA molecules.

5

40. A kit as claimed in Claim 38 or 39 wherein the signal generator comprises one of the following; a fluorogenic molecule, a molecular beacon, or another molecule that can be stimulated to emit photons that can be detected and quantified in a suitable detector.

10

41. A kit for detecting SARS coronavirus as claimed in any of Claims 38 to 40 wherein the detection molecule encodes any one of the DNA sequences of SEQ ID Nos. 21 to 25.